

## REMARKS

This is in response to the Official Action of December 1, 2005.

### Election/Restriction

The claims to groups IV-VI, VIII-XIV are cancelled herein, without prejudice or disclaimer.

The restriction requirement as to groups I, II, and VII is respectfully traversed.

The claims of groups I-II (claims 1-4 and 5-7) are related to the claims of group III as they are processes of making the product of group III. Accordingly it is respectfully submitted that they should be examined with group III.

The claims of group VII (claims 22-24) are a subgenera of the claims of group III, and it is accordingly respectfully submitted that these claims should be examined with group III.

### Rejection under 35 U.S. 103(a)

Claims 8-10 stand rejected as being unpatentable over Lindsey et al. (J. Org. Chem. 54:828-836 (1988)) in view of Kim et al. (J. Applied Polymer Science 81: 2347-2351 (2000)). The Office Action states that Lindsey et al. teaches dipyrromethane compounds to be used as intermediates for making porphyrin compounds and that Kim et al. teaches di-*t*-butyl phenyl phosphonate compounds that are thermally latent initiators in the polymerization of compounds in the presence of metals such as zinc. The Office Action states that one skilled in the art would have found the claimed compound *prima facie* obvious because the claimed compound and that of Lindsey et al. have the same dipyrromethane core structure and concludes that the motivation to make the claimed compounds derives from the expectation that structurally similar compounds would possess similar activity. Applicants respectfully disagree.

To establish a *prima facie* case of obviousness, the Patent Office must satisfy three requirements. First, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. See *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art"), see also *Princeton Biochemicals, Inc., v. Beckman Coulter, Inc.*, 411 F.3d 1332, 1337 (Fed. Cir.

2005). Furthermore, the teachings must come from the prior art, not from the Appellant's disclosure. *See In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991).

Second, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some teaching or suggestion that would have motivated the skilled artisan to modify a reference or to combine references. *Iron Grip Barbell Co., Inc., v. USA Sports, Inc.*, 392 F.3d 1317, 1320 (Fed. Cir. 2004), (*see also In re Fine*, 837 F.2d 1071, 1075 (Fed.Cir.1988) (teachings of a reference can be combined only if there is some suggestion or incentive to do so) (emphasis in the original). Such a requirement prevents a hindsight-based obviousness analysis based on the inventor's disclosure. *Ecolochem Inc., v. So. Cal. Edison Co.* 227 F3d 1361, 1371-72 (Fed. Cir. 2000). In addition, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. M.P.E.P. §2143.01, citing *In re Mills*, 916 F.2d 680, 682 (Fed. Cir. 1990).

As emphasized by the Court of Appeals for the Federal Circuit, to support combining references, evidence of a suggestion, teaching, or motivation to combine must be **clear and particular** and this requirement for clear and particular evidence is not met by broad and conclusory statements about the teachings of references. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999), *see also In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (there must be particular evidence from the prior art as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed).

The third requirement to establish a *prima facie* case of obviousness is that the proposed modification or combination of the prior art must have a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *See Amgen, Inc. v. Chugai Pharm. Co.*, 927 F2d 1200, 1209 (Fed. Cir. 1991); *see also In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991).

In the present case, the Office Action has not established a *prima facie* case of obviousness because the cited references (a) fail to teach or suggest all the claim recitations of the present invention, (b) fail to provide a teaching or suggestion to combine or modify the references so as to enable the skilled artisan to arrive at the claimed invention, and lastly, (c) the

cited references, alone or in combination, fail to provide a reasonable expectation of success.

The cited references, Lindsey et al. and Kim et al., fail to teach all the elements of the present invention as they do not disclose, alone or in any combination, a 5-phosphonodipyrromethane, wherein said phosphono is selected from the group consisting of dialkyl phosphono, diaryl phosphono, and dialkylaryl phosphono as taught by the present invention. Lindsey et al. does not discuss phosphono groups, or any similar compound, or their presence as substituents on a dipyrromethane compound and Kim et al. fails to remedy this deficiency, as it does not disclose dipyrromethane compounds or phosphonate groups as substituents of any compound.

Furthermore, neither of the cited references provides any teaching or motivation to make the claimed invention as suggested in the Office Action. Lindsey et al. describes a simplified synthesis of sterically hindered porphyrins such as ortho-disubstituted tetraphenylporphyrins. (*See* Lindsey et al., Abstract ). Lindsey et al. does not teach or suggest a dipyrromethane compound in which the aryl group is substituted with a phosphonate group as claimed by the present invention. Kim et al. describes the use of di-*t*-butyl phenyl phosphonate compounds as initiators in the polymerization of glycidyl phenyl ether. (*See* Kim et al. Abstract; page 2347, column 2; page 2348, column two, last paragraph) Kim et al. does not teach or suggest phosphonate groups as substituents of any compound, much less as substituents of dipyrromethane compounds, as is claimed in the present invention. Absent any clear evidence in the prior art of a teaching or suggestion to combine or modify the Lindsey et al and Kim et al. references, as suggested in the Office Action, a *prima facie* showing of a case of obviousness cannot be made.

When making an assessment of the differences between the prior art and the claimed subject matter, section 103 specifically requires consideration of the claimed invention as a whole. *Princeton Biochemicals, Inc. v. Beckman Coulter, Inc.* 411 F.3d 1332, 1337 (Fed. Cir. 2005). Simply identifying in the prior art each individual element claimed is insufficient to defeat the patentability of the whole claimed invention. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000). "Under section 103 teachings of references can be combined *only* if there is some suggestion to or incentive to do so." *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (emphasis in the original). The Office Action has failed to provide such evidence by its

statement that "the motivation to make the claimed compounds derives from the expectation that structurally similar compounds would possess similar activity (i.e. both will be useful as intermediates in the production of porphyrin compounds)." It is unclear to the Applicant what is even intended here. Does this mean once a core compound is known, any derivatives of that compound immediately become obvious based on the conclusory statement "that structurally similar compounds would possess similar activity"? This statement clearly does not satisfy the requirement under section 103 for clear and particular evidence of a suggestion, teaching, or motivation to combine the cited references. Furthermore, the Office Action fails to show how the statement "...it is well known in the art that di-*t*-butyl phenyl phosphonate is a useful intermediate for any reaction requiring the use of a metal," is at all relevant to the issue of motivation to make the suggested combination of references so as to enable the skilled artisan to arrive at the claimed invention. This comment is only relevant to the Kim et al. reference and not to Lindsey et al. and certainly not to the presently claimed invention. It clearly does not provide any motivation to combine the two references.

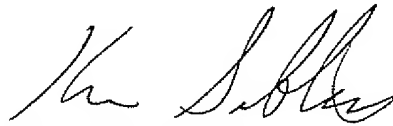
Finally, no evidence has been put forth to show that one of ordinary skill in the art at the time the invention was made would find the proposed modification or combination of the prior art to have a reasonable expectation of success. Lindsey et al. is focused on the synthesis of porphyrins without any disclosure of phosphonate substituted dipyrromethane compounds of any sort. Kim et al. discusses the use of di-*t*-butyl phenyl phosphonate as an initiator in polymerizing reactions and does not discuss phosphonate groups as substituents of any compounds including dipyrromethane compounds. Thus, based on the teaching of the references, one of ordinary skill in the art would not have any reasonable expectation that the disclosures of Lindsey et al. and Kim et al. could be successfully modified to achieve the claimed invention.

Accordingly, Applicants respectfully submit that a prima facie case of obviousness has not been established with regard to the combination of the presently cited references Lindsey et al. and Kim et al. The cited references fail to teach or suggest all the claim recitations of the present invention. No clear and particular evidence has been presented from the prior art that provides a teaching, suggestion or motivation to combine or modify the references so as to enable the skilled artisan to arrive at the claimed invention. Further, no evidence has been presented from the prior art that one of ordinary skill in the art at the time the invention was made would

have considered the proposed combination to have any reasonable expectation of success. Thus, the outstanding rejections fail to satisfy the Office's burden necessary to maintain an obviousness rejection. Therefore, claims 8-10 are nonobvious over Lindsey et al. and Kim et al., alone or in any combination, and the rejections based on them should be withdrawn.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ken Sibley', written in a cursive style.

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